

EXHIBIT 5

Report for RID 25865 Last Modified: [08-Aug-2008 11:49:53] -- Shot Number: 52064 at 06-Aug-2008 09:49:17

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H							
25865	GCD-1	QXI-1	WRFM-3	WRFM-4	TAD-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXI-1	XRPHC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1	SCC-F 12M NTOF L	SCC-G 12M NTOF H	

[Top](#)**General / 25865**

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	1
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
		Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)**Driver / 25865**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 25865**

60 beam(s) are configured, 60 beam(s) go to target.									
Beams	Group Name	Energy	Pointing	Focusing	Beam	DPP	DPR	Termination	Report

SRF Reports

					Delay (ns)				Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 25865**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-17		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 25865**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	Tertiary Activation Diagnostic - 1	Duffy, T.
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

SRF Reports

[Top](#)**Fixed Diagnostics / 25865**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 25865**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 25865** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	
Foil Thickness	

SRF Reports

Comments	
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[Top](#)**FIXED H12F - GMXL1 / 25865**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	0
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 25865** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**TIM 5 - TAD 1 / 25865** [Operating Procedures](#)

Description	Tertiary Activation Diagnostic
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SRF Reports

Package Type	Disk
Pay Load	
Distance to TCC	40 cm
Comments	
Steering	tcc

[Top](#)**[NEUTRON - NTD 1 / 25865](#)** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	3 cm
Trigger Delay	4999841.1 ns
Fiducial Delay Box	NTD-4

[Top](#)**[FIXED P4H - CPS 1 / 25865](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[FIXED H1 - CPS 2 / 25865](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[TIM 3 - WREM 3 / 25865](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	30.0 cm
Rotation	

SRF Reports

Steering	tcc	
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He $\sim 7e7$)	
Filter Pack	WRF	
Windows		
	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**TIM 4 - WREM 4 / 25865** [Operating Procedures](#)

Description	Wedge Range Filter Module	
Distance to TCC	30.0 cm	
Rotation		
Steering	tcc	
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He $\sim 7e7$)	
Filter Pack	WRF	
Windows		
	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 25865**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al

UR 000577

SRF Reports

Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 25865**

Description		LANL XR Framing Camera	
Optics		Internal Settings	
Nosecone Type	LANL	Phosphor	3000 V
Magnification		MCP Bias #1	+200 V
Pinhole Size	10um	MCP Bias #2	+200 V
Blast Shield	.010" Be	MCP Bias #3	+200 V
Frame Type	Straight	MCP Bias #4	+200 V
Stand-off Distance		PFM Type	200 ps
Pinhole Substrate	.002"		
Rear Filter	.002" Moly		
Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None
Comments		6x, high gain	

[Top](#)**FIXED H12C - XRPHC H12 / 25865** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

UR 000578

SRF Reports

[Top](#)**FIXED H13C - XRP HC H13 / 25865** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**FIXED B25 - FABS 1 / 25865**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26170 Last Modified: [06-Aug-2008 14:01:41] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H							
26170	GCD-1	QXL-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXR-1-4	XRP-12	GMX-1	XRP-13	KBMICRO-3	CPS-1	HYNBT-1	HYNTD-1	NTD-1	SCC-C 3M NTOF	SCC-D 5.4M NTOF	SCC-E 1.7M NTOF	SCC-F 12M NTOF

[Top](#)[General / 26170](#)

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	13
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin/ Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7a: High Yield, predicted* to exceed 1e10, but less than 3e11
		Primary Objective	Attempt to measure Reaction History using D/3He gammas
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)[Driver / 26170](#)

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG1018		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)[Beams / 26170](#)

60 beam(s) are configured, 60 beam(s) go to target.										
Beams	Group Name	Energy	Pointing	Focusing	Beam Delay (ns)	DPP	DPR	Termination	Report Group	

SRF Reports

11-60	Drive	500 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A
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[Top](#)**Target / 26170**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-2		
Type	SiGDP capsule - 6.7 atm D2/13.4 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	D2/3He		
DT Target			
Positioner			
Hazards			
Beryllium			
Uranium			
Instructions	Record 3He depress time		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26170**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

[Top](#)**Fixed Diagnostics / 26170**

SRF Reports

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26170**

Primary Radiation	DD	
Expected Yield	1.00E+11	
Priority	Description	Contact
Secondary	High Yield Neutron Bang-Time Detector (1)	
Secondary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (E 1.7M NTOF)	Glebov, V.
Primary	Scintillator Counter (D 5.4M NTOF)	Glebov, V.
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Secondary	Scintillator Counter (C 3M NTOF)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26170** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	
Foil Thickness	
Comments	

[Top](#)

SRF Reports

FIXED H12F - GMXI 1 / 26170

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26170** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbra aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26170** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	3 cm

UR 000583

SRF Reports

Trigger Delay	4999836 ns
Fiducial Delay Box	NTD-7

[Top](#)**FIXED P4H - CPS 1 / 26170** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**FIXED H1 - CPS 2 / 26170** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**TIM 3 - WRFM 3 / 26170** [Operating Procedures](#)

Description	Wedge Range Filter Module	
Distance to TCC	175 cm	
Rotation		
Steering	tcc	
Comments	Expected D2/3He-p Yield ~ 2e10	
Filter Pack	WRF	

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26170** [Operating Procedures](#)

Description	Wedge Range Filter Module
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UR 000584

SRF Reports

Distance to TCC	175 cm															
Rotation																
Steering	tcc															
Comments	Expected D2/3He-p Yield ~ 2e10															
Filter Pack	WRF															
Windows																
	<table border="1"> <tr> <td></td><td>Filter</td><td>Blast Shield</td></tr> <tr> <td>W1</td><td>WRF</td><td></td></tr> <tr> <td>W2</td><td></td><td></td></tr> <tr> <td>W3</td><td></td><td></td></tr> <tr> <td>W4</td><td></td><td></td></tr> </table>		Filter	Blast Shield	W1	WRF		W2			W3			W4		
	Filter	Blast Shield														
W1	WRF															
W2																
W3																
W4																

[Top](#)**FIXED H13F - KBMICRO 3 / 26170**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26170**

Description		LANL XR Framing Camera	
Optics		Internal Settings	
Nosecone Type	LANL	Phosphor	3000 V
Magnification	6X-16	MCP Bias #1	+200 V
Pinhole Size	10um	MCP Bias #2	+200 V
Blast Shield	.010" Be	MCP Bias #3	+200 V
Frame Type	Straight	MCP Bias #4	+200 V
Stand-off Distance		PFM Type	200 ps
Pinhole Substrate	.002"		
Rear Filter	.002" Moly		

UR 000585

SRF Reports

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1	Power Supply	18V DC
3	1.3	MCP Head	4 Strip
4	1.6	Monitor Atten.	-23 dB
		Trigger Atten.	
Comments			

[Top](#)**FIXED H12C - XRPHC H12 / 26170** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26170** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26170** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	40 cm

UR 000586

SRF Reports

Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26170**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

UR 000587

Report for RID 26198 Last Modified: [08-Aug-2008 11:48:17] -- Shot Number: 52065 at 06-Aug-2008 11:23:57

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F 12M NTOF L	SCC-G 12M NTOF H
26198	GCD-1	QXL-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRP HC-H12	GMXL-1	XRP HC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1		

[Top](#)**General / 26198**

Shot Scope	OMEGA Only			
Campaign	LANL-HED		Planned Date	06-Aug-2008
Series Name	DTRat		Shot Series	2
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067		Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
			Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
			Secondary Objective	
Special Instructions				
Abort Criteria	Abort on anything			

[Top](#)**Driver / 26198**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 26198**

60 beam(s) are configured, 60 beam(s) go to target.									
						Beam			Report

SRF Reports

Beams	Group Name	Energy	Pointing	Focusing	Delay (ns)	DPP	DPR	Termination	Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26198**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-19		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26198**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	

SRF Reports

TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.
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[Top](#)**Fixed Diagnostics / 26198**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26198**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26198** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	

SRF Reports

Foil Thickness	
Comments	

[Top](#)**FIXED H12F - GMXL1 / 26198**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+1mil Al
Filter used for image B	1mil Be+2mil Al
Filter used for image C	1mil Be+3 mil Al
Filter used for image D	1mil Be+4 mil Al

[Top](#)**TIM 6 - NIS LANL / 26198** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26198** [Operating Procedures](#)

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UR 000591

SRF Reports

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	5 cm
Trigger Delay	4999841.5 ns
Fiducial Delay Box	NTD-4

[Top](#)**[FIXED P4H - CPS 1 / 26198](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~5e10)

[Top](#)**[FIXED H1 - CPS 2 / 26198](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~5e10)

[Top](#)**[TIM 3 - WRFM 3 / 26198](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows		
	Filter	Blast Shield
W1	WRF	
W2		

UR 000592

SRF Reports

W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26198** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26198**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26198**

Description		LANL XR Framing Camera
Optics		
Nosecone Type	LANL	Internal Settings

UR 000593

SRF Reports

Magnification		Phosphor	3000 V
Pinhole Size	10um	MCP Bias #1	+300 V
Blast Shield	.010" Be	MCP Bias #2	+300 V
Frame Type	Straight	MCP Bias #3	+300 V
Stand-off Distance		MCP Bias #4	+300 V
Pinhole Substrate	.002"	PFM Type	200 ps
Rear Filter	.002" Moly		

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	0.300	Power Supply	18V DC
3	0.600	MCP Head	4 Strip
4	0.900	Monitor Atten.	-23 dB
		Trigger Atten.	None

Comments	6x, high gain
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[Top](#)**FIXED H12C - XRPHC H12 / 26198** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26198** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm

SRF Reports

Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26198** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	80 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26198**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26199 Last Modified: [08-Aug-2008 12:03:38] -- Shot Number: 52066 at 06-Aug-2008 12:34:14

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F 12M NTOF L	SCC-G 12M NTOF H
26199	GCD-1	QXI-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRP HC-H12	GMXI-1	XRP HC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1		

[Top](#)**General / 26199**

Shot Scope	OMEGA Only			
Campaign	LANL-HED		Planned Date	06-Aug-2008
Series Name	DTRat		Shot Series	3
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067		Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
			Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
			Secondary Objective	
Special Instructions				
Abort Criteria	Abort on anything			

[Top](#)**Driver / 26199**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 26199**

60 beam(s) are configured, 60 beam(s) go to target.									
						Beam			Report

SRF Reports

Beams	Group Name	Energy	Pointing	Focusing	Delay (ns)	DPP	DPR	Termination	Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26199**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-22		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26199**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	

SRF Reports

TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.
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[Top](#)**Fixed Diagnostics / 26199**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26199**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26199** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	

SRF Reports

Foil Thickness	
Comments	

[Top](#)**FIXED H12F - GMXL1 / 26199**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+1mil Al
Filter used for image B	1mil Be+2mil Al
Filter used for image C	1mil Be+3 mil Al
Filter used for image D	1mil Be+4 mil Al

[Top](#)**TIM 6 - NIS LANL / 26199** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26199** [Operating Procedures](#)

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SRF Reports

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	10 cm
Trigger Delay	4999842.7 ns
Fiducial Delay Box	NTD-6

[Top](#)**FIXED P4H - CPS 1 / 26199** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**FIXED H1 - CPS 2 / 26199** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**TIM 3 - WRFM 3 / 26199** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		

UR 000600

SRF Reports

W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26199** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26199**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26199**

Description		LANL XR Framing Camera
Optics		
Nosecone Type	LANL	Internal Settings

UR 000601

SRF Reports

Magnification		Phosphor	3000 V
Pinhole Size	10um	MCP Bias #1	+200 V
Blast Shield	.010" Be	MCP Bias #2	+200 V
Frame Type	Straight	MCP Bias #3	+200 V
Stand-off Distance		MCP Bias #4	+200 V
Pinhole Substrate	.002"	PFM Type	200 ps
Rear Filter	.002" Moly		

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None

Comments	6x, high gain
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[Top](#)**FIXED H12C - XRPHC H12 / 26199** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26199** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm

SRF Reports

Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26199** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	40 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26199**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26200 Last Modified: [08-Aug-2008 12:04:30] -- Shot Number: 52067 at 06-Aug-2008 14:11:34

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F 12M NTOF L	SCC-G 12M NTOF H
26200	GCD-1	QXI-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRP HC-H12	GMXI-1	XRP HC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1		

[Top](#)**General / 26200**

Shot Scope	OMEGA Only			
Campaign	LANL-HED		Planned Date	06-Aug-2008
Series Name	DTRat		Shot Series	4
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067		Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
			Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
			Secondary Objective	
Special Instructions				
Abort Criteria	Abort on anything			

[Top](#)**Driver / 26200**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 26200**

60 beam(s) are configured, 60 beam(s) go to target.									
						Beam			Report

SRF Reports

Beams	Group Name	Energy	Pointing	Focusing	Delay (ns)	DPP	DPR	Termination	Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26200**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-14		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26200**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	

SRF Reports

TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.
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[Top](#)**Fixed Diagnostics / 26200**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26200**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26200** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	

SRF Reports

Foil Thickness	
Comments	

[Top](#)**FIXED H12F - GMXL1 / 26200**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+1mil Al
Filter used for image B	1mil Be+2mil Al
Filter used for image C	1mil Be+3mil Al
Filter used for image D	1mil Be+4mil Al

[Top](#)**TIM 6 - NIS LANL / 26200** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26200** [Operating Procedures](#)

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UR 000607

SRF Reports

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	10 cm
Trigger Delay	4999842.7 ns
Fiducial Delay Box	NTD-6

[Top](#)**[FIXED P4H - CPS 1 / 26200](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[FIXED H1 - CPS 2 / 26200](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[TIM 3 - WREM 3 / 26200](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module	
Distance to TCC	30.0 cm	
Rotation		
Steering	tcc	
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He ~7e7)	
Filter Pack	WRF	
Windows		
	Filter	Blast Shield
W1	WRF	
W2		

UR 000608

SRF Reports

W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26200** [Operating Procedures](#)

Description	Wedge Range Filter Module	
Distance to TCC	30.0 cm	
Rotation		
Steering	tcc	
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He ~7e7)	
Filter Pack	WRF	
Windows		
	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26200**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26200**

Description		LANL XR Framing Camera
Optics		
Nosecone Type	LANL	
		Internal Settings

UR 000609

SRF Reports

Magnification		Phosphor	3000 V
Pinhole Size	10um	MCP Bias #1	+200 V
Blast Shield	.010" Be	MCP Bias #2	+200 V
Frame Type	Straight	MCP Bias #3	+200 V
Stand-off Distance		MCP Bias #4	+200 V
Pinhole Substrate	.002"	PFM Type	200 ps
Rear Filter	.002" Moly		

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None

Comments	6x, high gain
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[Top](#)**FIXED H12C - XRPHC H12 / 26200** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26200** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm

SRF Reports

Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26200** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	50 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26200**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26202 Last Modified: [08-Aug-2008 12:08:16] -- Shot Number: 52070 at 06-Aug-2008 16:08:17

TIM	I	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F	SCC-G
26202		QXL-1	WRFM-3	WRFM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXL-1	XRPHC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1	12M NTOF L	12M NTOF H

[Top](#)**General / 26202**

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	6
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
		Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)**Driver / 26202**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 26202**

60 beam(s) are configured, 60 beam(s) go to target.										
	Beams	Group Name	Energy	Pointing	Focusing	Beam Delay (ns)	DPP	DPR	Termination	Report Group
	11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26202**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-5		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N

SRF Reports

Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26202**

Location	Priority	Description	Contact
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

[Top](#)**Fixed Diagnostics / 26202**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26202**

Primary Radiation	DT		
Expected Yield	5.00E+12		
Priority	Description	Contact	
Primary	Activation Retractor (Copper)	Glebov, V.	
Secondary	High Yield Neutron Bang-Time Detector (1)		
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.	
Primary	Neutron Temporal Diagnostic (1)		
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.	
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.	

[Top](#)**FIXED H12F - GMXL1 / 26202**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al

SRF Reports

Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**[TIM 6 - NIS LANL / 26202](#)** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**[NEUTRON - NTD 1 / 26202](#)** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	10 cm
Trigger Delay	4999842.7 ns
Fiducial Delay Box	NTD-6

[Top](#)**[FIXED P4H - CPS 1 / 26202](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**[FIXED H1 - CPS 2 / 26202](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**[TIM 3 - WRFM 3 / 26202](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF
Windows	
<input type="checkbox"/>	Filter Blast Shield
W1	WRF

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SRF Reports

W2		
W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26202** [Operating Procedures](#)

Description	Wedge Range Filter Module															
Distance to TCC	75.0 cm															
Rotation																
Steering	tcc															
Comments	Primary D3He protons (YD3He ~1e9)															
Filter Pack	WRF															
Windows																
	<table><tr><td></td><td>Filter</td><td>Blast Shield</td></tr><tr><td>W1</td><td>WRF</td><td></td></tr><tr><td>W2</td><td></td><td></td></tr><tr><td>W3</td><td></td><td></td></tr><tr><td>W4</td><td></td><td></td></tr></table>		Filter	Blast Shield	W1	WRF		W2			W3			W4		
	Filter	Blast Shield														
W1	WRF															
W2																
W3																
W4																

[Top](#)**FIXED H13F - KBMICRO 3 / 26202**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXL 1 / 26202**

Description	LANL XR Framing Camera
Optics	
Nosecone Type	LANL
Magnification	
Pinhole Size	10um
Blast Shield	.010" Be
Frame Type	Straight
Stand-off Distance	
Pinhole Substrate	.002"
Rear Filter	.002" Moly
Internal Settings	
Phosphor	3000 V
MCP Bias #1	+200 V
MCP Bias #2	+200 V
MCP Bias #3	+200 V
MCP Bias #4	+200 V
PFM Type	200 ps
Interstrip Timing	
Strip#	Requested delay (ns)
1	0.000
2	1.100
3	1.400
4	1.700
Misc.	
Steering	tcc
Start Time	-.1 ns
Power Supply	18V DC
MCP Head	4 Strip
Monitor Atten.	-23 dB
Trigger Atten.	None
Comments	6x, high gain

[Top](#)

UR 000615

FIXED H12C - XRP HC H12 / 26202 [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRP HC H13 / 26202** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26202** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	20 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26202**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26203 Last Modified: [08-Aug-2008 12:12:46] -- Shot Number: 52071 at 06-Aug-2008 17:02:40

TIM	I	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F	SCC-G
26203		QXL-1	WRFM-3	WRFM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXL-1	XRPHC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1	12M NTOF L	12M NTOF H

[Top](#)**General / 26203**

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	7
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
		Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)**Driver / 26203**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 26203**

60 beam(s) are configured, 60 beam(s) go to target.										
	Beams	Group Name	Energy	Pointing	Focusing	Beam Delay (ns)	DPP	DPR	Termination	Report Group
	11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26203**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-13		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N

SRF Reports

Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26203**

Location	Priority	Description	Contact
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

[Top](#)**Fixed Diagnostics / 26203**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26203**

Primary Radiation	DT		
Expected Yield	5.00E+12		
Priority	Description	Contact	
Primary	Activation Retractor (Copper)	Glebov, V.	
Secondary	High Yield Neutron Bang-Time Detector (1)		
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.	
Primary	Neutron Temporal Diagnostic (1)		
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.	
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.	

[Top](#)**FIXED H12F - GMXL1 / 26203**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al

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SRF Reports

Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**[TIM 6 - NIS LANL / 26203](#)** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**[NEUTRON - NTD 1 / 26203](#)** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	10 cm
Trigger Delay	4999842.7 ns
Fiducial Delay Box	NTD-6

[Top](#)**[FIXED P4H - CPS 1 / 26203](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[FIXED H1 - CPS 2 / 26203](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[TIM 3 - WRFM 3 / 26203](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	30.0 cm
Rotation	
Steering	tcc
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He ~7e7)
Filter Pack	WRF
Windows	
<input type="checkbox"/>	Filter Blast Shield
W1	WRF

SRF Reports

W2		
W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26203** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	30.0 cm
Rotation	
Steering	tcc
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He ~7e7)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26203**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXL 1 / 26203**

Description	LANL XR Framing Camera																
Optics <table> <tr> <td>Nosecone Type</td><td>LANL</td></tr> <tr> <td>Magnification</td><td></td></tr> <tr> <td>Pinhole Size</td><td>10um</td></tr> <tr> <td>Blast Shield</td><td>.010" Be</td></tr> <tr> <td>Frame Type</td><td>Straight</td></tr> <tr> <td>Stand-off Distance</td><td></td></tr> <tr> <td>Pinhole Substrate</td><td>.002"</td></tr> <tr> <td>Rear Filter</td><td>.002" Moly</td></tr> </table>		Nosecone Type	LANL	Magnification		Pinhole Size	10um	Blast Shield	.010" Be	Frame Type	Straight	Stand-off Distance		Pinhole Substrate	.002"	Rear Filter	.002" Moly
Nosecone Type	LANL																
Magnification																	
Pinhole Size	10um																
Blast Shield	.010" Be																
Frame Type	Straight																
Stand-off Distance																	
Pinhole Substrate	.002"																
Rear Filter	.002" Moly																
Internal Settings <table> <tr> <td>Phosphor</td><td>3000 V</td></tr> <tr> <td>MCP Bias #1</td><td>+200 V</td></tr> <tr> <td>MCP Bias #2</td><td>+200 V</td></tr> <tr> <td>MCP Bias #3</td><td>+200 V</td></tr> <tr> <td>MCP Bias #4</td><td>+200 V</td></tr> <tr> <td>PFM Type</td><td>200 ps</td></tr> </table>		Phosphor	3000 V	MCP Bias #1	+200 V	MCP Bias #2	+200 V	MCP Bias #3	+200 V	MCP Bias #4	+200 V	PFM Type	200 ps				
Phosphor	3000 V																
MCP Bias #1	+200 V																
MCP Bias #2	+200 V																
MCP Bias #3	+200 V																
MCP Bias #4	+200 V																
PFM Type	200 ps																
Interstrip Timing <table> <tr> <th>Strip#</th><th>Requested delay (ns)</th></tr> <tr> <td>1</td><td>0.000</td></tr> <tr> <td>2</td><td>1.100</td></tr> <tr> <td>3</td><td>1.400</td></tr> <tr> <td>4</td><td>1.700</td></tr> </table>		Strip#	Requested delay (ns)	1	0.000	2	1.100	3	1.400	4	1.700						
Strip#	Requested delay (ns)																
1	0.000																
2	1.100																
3	1.400																
4	1.700																
Misc. <table> <tr> <td>Steering</td><td>tcc</td></tr> <tr> <td>Start Time</td><td>-.1 ns</td></tr> <tr> <td>Power Supply</td><td>18V DC</td></tr> <tr> <td>MCP Head</td><td>4 Strip</td></tr> <tr> <td>Monitor Atten.</td><td>-23 dB</td></tr> <tr> <td>Trigger Atten.</td><td>None</td></tr> </table>		Steering	tcc	Start Time	-.1 ns	Power Supply	18V DC	MCP Head	4 Strip	Monitor Atten.	-23 dB	Trigger Atten.	None				
Steering	tcc																
Start Time	-.1 ns																
Power Supply	18V DC																
MCP Head	4 Strip																
Monitor Atten.	-23 dB																
Trigger Atten.	None																
Comments	6x, high gain																

[Top](#)

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FIXED H12C - XRP HC H12 / 26203 [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRP HC H13 / 26203** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26203** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	30 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26203**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26204 Last Modified: [06-Aug-2008 17:31:55] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F 12M NTOF L	SCC-G 12M NTOF H
26204	GCD-1	QXI-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXI-1	XRPHC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1		

[Top](#)[General / 26204](#)

Shot Scope	OMEGA Only			
Campaign	LANL-HED		Planned Date	06-Aug-2008
Series Name	DTRat		Shot Series	8
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067		Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
			Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
			Secondary Objective	
Special Instructions				
Abort Criteria	Abort on anything			

[Top](#)[Driver / 26204](#)

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)[Beams / 26204](#)

60 beam(s) are configured, 60 beam(s) go to target.									
						Beam			Report

SRF Reports

Beams	Group Name	Energy	Pointing	Focusing	Delay (ns)	DPP	DPR	Termination	Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26204**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-15		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26204**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	

SRF Reports

TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.
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[Top](#)**Fixed Diagnostics / 26204**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26204**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26204** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	

SRF Reports

Foil Thickness	
Comments	

[Top](#)**FIXED H12F - GMXL1 / 26204**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26204** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26204** [Operating Procedures](#)

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SRF Reports

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	10 cm
Trigger Delay	4999842.7 ns
Fiducial Delay Box	NTD-5

[Top](#)**[FIXED P4H - CPS 1 / 26204](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~5e10)

[Top](#)**[FIXED H1 - CPS 2 / 26204](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~5e10)

[Top](#)**[TIM 3 - WREM 3 / 26204](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows		
	Filter	Blast Shield
W1	WRF	
W2		

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SRF Reports

W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26204** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26204**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26204**

Description		LANL XR Framing Camera
Optics		
Nosecone Type	LANL	
		Internal Settings

UR 000627

SRF Reports

Magnification		Phosphor	3000 V
Pinhole Size	10um	MCP Bias #1	+200 V
Blast Shield	.010" Be	MCP Bias #2	+200 V
Frame Type	Straight	MCP Bias #3	+200 V
Stand-off Distance		MCP Bias #4	+200 V
Pinhole Substrate	.002"	PFM Type	200 ps
Rear Filter	.002" Moly		

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None

Comments	6x, high gain
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[Top](#)**FIXED H12C - XRPHC H12 / 26204** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26204** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm

SRF Reports

Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26204** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	80 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26204**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26205 Last Modified: [08-Aug-2008 12:16:00] -- Shot Number: 52072 at 06-Aug-2008 17:54:13

TIM	I	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F	SCC-G
26205		QXL-1	WRFM-3	WRFM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXL-1	XRPHC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1	12M NTOF L	12M NTOF H

[Top](#)**General / 26205**

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	9
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
		Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)**Driver / 26205**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 26205**

60 beam(s) are configured, 60 beam(s) go to target.										
	Beams	Group Name	Energy	Pointing	Focusing	Beam Delay (ns)	DPP	DPR	Termination	Report Group
	11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26205**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-12		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N

SRF Reports

Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26205**

Location	Priority	Description	Contact
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

[Top](#)**Fixed Diagnostics / 26205**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26205**

Primary Radiation	DT		
Expected Yield	5.00E+12		
Priority	Description	Contact	
Primary	Activation Retractor (Copper)	Glebov, V.	
Secondary	High Yield Neutron Bang-Time Detector (1)		
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.	
Primary	Neutron Temporal Diagnostic (1)		
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.	
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.	

[Top](#)**FIXED H12F - GMXL1 / 26205**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al

UR 000631

SRF Reports

Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**[TIM 6 - NIS LANL / 26205](#)** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**[NEUTRON - NTD 1 / 26205](#)** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	6 cm
Trigger Delay	4999841.7 ns
Fiducial Delay Box	NTD-5

[Top](#)**[FIXED P4H - CPS 1 / 26205](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**[FIXED H1 - CPS 2 / 26205](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**[TIM 3 - WRFM 3 / 26205](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF
Windows	
<input type="checkbox"/>	Filter Blast Shield
W1	WRF

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SRF Reports

W2		
W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26205** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows		
	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26205**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXL 1 / 26205**

Description		LANL XR Framing Camera	
Optics		Internal Settings	
Nosecone Type	LANL	Phosphor	3000 V
Magnification		MCP Bias #1	+200 V
Pinhole Size	10um	MCP Bias #2	+200 V
Blast Shield	.010" Be	MCP Bias #3	+200 V
Frame Type	Straight	MCP Bias #4	+200 V
Stand-off Distance		PFM Type	200 ps
Pinhole Substrate	.002"		
Rear Filter	.002" Moly		
Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None
Comments		6x, high gain	

[Top](#)

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FIXED H12C - XRP HC H12 / 26205 [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRP HC H13 / 26205** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26205** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	10 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26205**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

SRF Reports

Report for RID 26206 Last Modified: [06-Aug-2008 17:33:20] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F 12M NTOF L	SCC-G 12M NTOF H
26206	GCD-1	QXI-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRP HC-H12	GMXI-1	XRP HC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1		

[Top](#)**General / 26206**

Shot Scope	OMEGA Only			
Campaign	LANL-HED		Planned Date	06-Aug-2008
Series Name	DTRat		Shot Series	10
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067		Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
			Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
			Secondary Objective	
Special Instructions				
Abort Criteria	Abort on anything			

[Top](#)**Driver / 26206**

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)**Beams / 26206**

60 beam(s) are configured, 60 beam(s) go to target.									
						Beam			Report

UR 000635

SRF Reports

Beams	Group Name	Energy	Pointing	Focusing	Delay (ns)	DPP	DPR	Termination	Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26206**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-7		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26206**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	

SRF Reports

TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.
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[Top](#)**Fixed Diagnostics / 26206**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26206**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26206** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	

SRF Reports

Foil Thickness	
Comments	

[Top](#)**FIXED H12F - GMXL1 / 26206**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	5 Degrees
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26206** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26206** [Operating Procedures](#)

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UR 000638

SRF Reports

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	10 cm
Trigger Delay	4999842.2 ns
Fiducial Delay Box	NTD-5

[Top](#)**[FIXED P4H - CPS 1 / 26206](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[FIXED H1 - CPS 2 / 26206](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p (YDD ~8e10)

[Top](#)**[TIM 3 - WREM 3 / 26206](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module	
Distance to TCC	30.0 cm	
Rotation		
Steering	tcc	
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He ~7e7)	
Filter Pack	WRF	
Windows		
	Filter	Blast Shield
W1	WRF	
W2		

UR 000639

SRF Reports

W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26206** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	30.0 cm
Rotation	
Steering	tcc
Comments	For the first time, measure secondary protons in a DT neutron background. (YD3He ~7e7)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26206**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26206**

Description	LANL XR Framing Camera		
Optics			
<table> <tr> <td>Nosecone Type</td><td>LANL</td></tr> </table>	Nosecone Type	LANL	Internal Settings
Nosecone Type	LANL		

UR 000640

SRF Reports

Magnification		Phosphor	3000 V
Pinhole Size	10um	MCP Bias #1	+200 V
Blast Shield	.010" Be	MCP Bias #2	+200 V
Frame Type	Straight	MCP Bias #3	+200 V
Stand-off Distance		MCP Bias #4	+200 V
Pinhole Substrate	.002"	PFM Type	200 ps
Rear Filter	.002" Moly		

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None

Comments	6x, high gain
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[Top](#)**FIXED H12C - XRPHC H12 / 26206** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26206** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm

SRF Reports

Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26206** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	20 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26206**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26207 Last Modified: [05-Mar-2009 08:28:02] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H						
26207	GCD-1	QXL-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXL-1	XRPHC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1	SCC-F 12M NTOF L	SCC-G 12M NTOF H

[Top](#)[General / 26207](#)

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	11
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
		Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)[Driver / 26207](#)

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)[Beams / 26207](#)

60 beam(s) are configured, 60 beam(s) go to target.									
						Beam			Report

SRF Reports

Beams	Group Name	Energy	Pointing	Focusing	Delay (ns)	DPP	DPR	Termination	Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26207**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-18		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26207**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	

SRF Reports

TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.
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[Top](#)**Fixed Diagnostics / 26207**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26207**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26207** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	

SRF Reports

Foil Thickness	
Comments	

[Top](#)**FIXED H12F - GMXL1 / 26207**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26207** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26207** [Operating Procedures](#)

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SRF Reports

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	6 cm
Trigger Delay	4999841.7 ns
Fiducial Delay Box	NTD-5

[Top](#)**FIXED P4H - CPS 1 / 26207** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~5e10)

[Top](#)**FIXED H1 - CPS 2 / 26207** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~5e10)

[Top](#)**TIM 3 - WREM 3 / 26207** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows		
	Filter	Blast Shield
W1	WRF	
W2		

UR 000647

SRF Reports

W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26207** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26207**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26207**

Description		LANL XR Framing Camera
Optics		
Nosecone Type	LANL	
		Internal Settings

UR 000648

SRF Reports

Magnification		Phosphor	3000 V
Pinhole Size	10um	MCP Bias #1	+200 V
Blast Shield	.010" Be	MCP Bias #2	+200 V
Frame Type	Straight	MCP Bias #3	+200 V
Stand-off Distance		MCP Bias #4	+200 V
Pinhole Substrate	.002"	PFM Type	200 ps
Rear Filter	.002" Moly		

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None

Comments	6x, high gain
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[Top](#)**FIXED H12C - XRPHC H12 / 26207** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26207** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm

SRF Reports

Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26207** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	80 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26207**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26208 Last Modified: [06-Aug-2008 17:33:28] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H					SCC-F 12M NTOF L	SCC-G 12M NTOF H
26208	GCD-1	QXI-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXI-1	XRPHC-H13	KBMICRO-3	CPS-1	ACTR-Copper	HYNBT-1	HYNTD-1	NTD-1		

[Top](#)[General / 26208](#)

Shot Scope	OMEGA Only			
Campaign	LANL-HED		Planned Date	06-Aug-2008
Series Name	DTRat		Shot Series	12
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067		Yield	Type 7b: High Yield, predicted* to exceed 3e11, but less than 3e14
			Primary Objective	Effect of 3He addition on DT Yield, Reaction History & Rt
			Secondary Objective	
Special Instructions				
Abort Criteria	Abort on anything			

[Top](#)[Driver / 26208](#)

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG0604		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)[Beams / 26208](#)

60 beam(s) are configured, 60 beam(s) go to target.									
						Beam			Report

SRF Reports

Beams	Group Name	Energy	Pointing	Focusing	Delay (ns)	DPP	DPR	Termination	Group
11-60	Drive	260 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A

[Top](#)**Target / 26208**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-4 DTRAT-08A-9		
Type	SiGDP capsule - 0 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	DT		
DT Target	Y		
Positioner			
Hazards	Tritium		
Beryllium			
Uranium			
Instructions	-Record 3He depress time -Target Mount .2" < standard mount		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26208**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	

SRF Reports

TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.
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[Top](#)**Fixed Diagnostics / 26208**

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26208**

Primary Radiation	DT	
Expected Yield	5.00E+12	
Priority	Description	Contact
Primary	Activation Retractor (Copper)	Glebov, V.
Secondary	High Yield Neutron Bang-Time Detector (1)	
Primary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Primary	Scintillator Counter (G 12M NTOF H)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26208** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	

SRF Reports

Foil Thickness	
Comments	

[Top](#)**FIXED H12F - GMXL1 / 26208**

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26208** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbral aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26208** [Operating Procedures](#)

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UR 000654

SRF Reports

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	10 cm
Trigger Delay	4999842.2 ns
Fiducial Delay Box	NTD-5

[Top](#)**FIXED P4H - CPS 1 / 26208** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**FIXED H1 - CPS 2 / 26208** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	2 mm
Comments	CPS1&2 for DD-p, D3He-p and T3He-d (YDD ~8e9)

[Top](#)**TIM 3 - WREM 3 / 26208** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows		
	Filter	Blast Shield
W1	WRF	
W2		

UR 000655

SRF Reports

W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26208** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	75.0 cm
Rotation	
Steering	tcc
Comments	Primary D3He protons (YD3He ~1e9)
Filter Pack	WRF

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**FIXED H13F - KBMICRO 3 / 26208**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26208**

Description		LANL XR Framing Camera
Optics		
Nosecone Type	LANL	
		Internal Settings

UR 000656

SRF Reports

Magnification		Phosphor	3000 V
Pinhole Size	10um	MCP Bias #1	+200 V
Blast Shield	.010" Be	MCP Bias #2	+200 V
Frame Type	Straight	MCP Bias #3	+200 V
Stand-off Distance		MCP Bias #4	+200 V
Pinhole Substrate	.002"	PFM Type	200 ps
Rear Filter	.002" Moly		

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1.100	Power Supply	18V DC
3	1.400	MCP Head	4 Strip
4	1.700	Monitor Atten.	-23 dB
		Trigger Atten.	None

Comments	6x, high gain
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[Top](#)**FIXED H12C - XRPHC H12 / 26208** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26208** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm

SRF Reports

Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26208** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	40 cm
Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26208**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

Report for RID 26209 Last Modified: [06-Aug-2008 14:01:59] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H								
26209	GCD-1	QXL-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXR-1-4	XRP-12	GMXL-1	XRP-13	KBMICRO-3	CPS-1	HYNBT-1	HYNTD-1	NTD-1	SCC-C 3M NTOF	SCC-D 5.4M NTOF	SCC-E 1.7M NTOF	SCC-F 12M NTOF	

[Top](#)[General / 26209](#)

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	14
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin/ Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7a: High Yield, predicted* to exceed 1e10, but less than 3e11
		Primary Objective	Attempt to measure Reaction History using D/3He gammas
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)[Driver / 26209](#)

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG1018		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)[Beams / 26209](#)

60 beam(s) are configured, 60 beam(s) go to target.									
Beams	Group Name	Energy	Pointing	Focusing	Beam Delay (ns)	DPP	DPR	Termination	Report Group

SRF Reports

11-60	Drive	500 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A
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[Top](#)**Target / 26209**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-5 DTRAT-08A-8		
Type	SiGDP capsule - 6.7 atm D2/13.4 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	D2/3He		
DT Target			
Positioner			
Hazards			
Beryllium			
Uranium			
Instructions	Record 3He depress time		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26209**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

[Top](#)**Fixed Diagnostics / 26209**

SRF Reports

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26209**

Primary Radiation	DD	
Expected Yield	1.00E+11	
Priority	Description	Contact
Secondary	High Yield Neutron Bang-Time Detector (1)	
Secondary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (E 1.7M NTOF)	Glebov, V.
Primary	Scintillator Counter (D 5.4M NTOF)	Glebov, V.
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Secondary	Scintillator Counter (C 3M NTOF)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26209** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	
Foil Thickness	
Comments	

[Top](#)

SRF Reports

FIXED H12F - GMXI 1 / 26209

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26209** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbra aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26209** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	3 cm

UR 000662

SRF Reports

Trigger Delay	4999836 ns
Fiducial Delay Box	NTD-7

[Top](#)**FIXED P4H - CPS 1 / 26209** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**FIXED H1 - CPS 2 / 26209** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**TIM 3 - WRFM 3 / 26209** [Operating Procedures](#)

Description	Wedge Range Filter Module	
Distance to TCC	175 cm	
Rotation		
Steering	tcc	
Comments	Expected D2/3He-p Yield ~ 2e10	
Filter Pack	WRF	

Windows

	Filter	Blast Shield
W1	WRF	
W2		
W3		
W4		

[Top](#)**TIM 4 - WRFM 4 / 26209** [Operating Procedures](#)

Description	Wedge Range Filter Module
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SRF Reports

Distance to TCC	175 cm															
Rotation																
Steering	tcc															
Comments	Expected D2/3He-p Yield ~ 2e10															
Filter Pack	WRF															
Windows																
	<table border="1"> <tr> <td></td><td>Filter</td><td>Blast Shield</td></tr> <tr> <td>W1</td><td>WRF</td><td></td></tr> <tr> <td>W2</td><td></td><td></td></tr> <tr> <td>W3</td><td></td><td></td></tr> <tr> <td>W4</td><td></td><td></td></tr> </table>		Filter	Blast Shield	W1	WRF		W2			W3			W4		
	Filter	Blast Shield														
W1	WRF															
W2																
W3																
W4																

[Top](#)**FIXED H13F - KBMICRO 3 / 26209**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26209**

Description		LANL XR Framing Camera	
Optics		Internal Settings	
Nosecone Type	LANL	Phosphor	3000 V
Magnification	6X-16	MCP Bias #1	+200 V
Pinhole Size	10um	MCP Bias #2	+200 V
Blast Shield	.010" Be	MCP Bias #3	+200 V
Frame Type	Straight	MCP Bias #4	+200 V
Stand-off Distance		PFM Type	200 ps
Pinhole Substrate	.002"		
Rear Filter	.002" Moly		

UR 000664

SRF Reports

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1	Power Supply	18V DC
3	1.3	MCP Head	4 Strip
4	1.6	Monitor Atten.	-23 dB
		Trigger Atten.	
Comments			

[Top](#)**FIXED H12C - XRP HC H12 / 26209** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRP HC H13 / 26209** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26209** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	40 cm

UR 000665

SRF Reports

Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26209**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

UR 000666

Report for RID 26210 Last Modified: [05-Mar-2009 08:33:54] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H							
26210	GCD-1	QXL-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXL-1	XRPHC-H13	KBMICRO-3	CPS-1	HYNBT-1	HYNTD-1	NTD-1	SCC-C 3M NTOF	SCC-D 5.4M NTOF	SCC-E 1.7M NTOF	SCC-F 12M NTOF L

[Top](#)[General / 26210](#)

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	15
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin/ Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7a: High Yield, predicted* to exceed 1e10, but less than 3e11
		Primary Objective	Attempt to measure Reaction History using D/3He gammas
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)[Driver / 26210](#)

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG1018		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)[Beams / 26210](#)

60 beam(s) are configured, 60 beam(s) go to target.										
Beams	Group Name	Energy	Pointing	Focusing	Beam Delay (ns)	DPP	DPR	Termination	Report Group	

SRF Reports

11-60	Drive	500 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A
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[Top](#)**Target / 26210**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-5 DTRAT-08A-16		
Type	SiGDP capsule - 6.7 atm D2/13.4 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	D2/3He		
DT Target			
Positioner			
Hazards			
Beryllium			
Uranium			
Instructions	Record 3He depress time		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26210**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

[Top](#)**Fixed Diagnostics / 26210**

SRF Reports

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26210**

Primary Radiation	DD	
Expected Yield	1.00E+11	
Priority	Description	Contact
Secondary	High Yield Neutron Bang-Time Detector (1)	
Secondary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (E 1.7M NTOF)	Glebov, V.
Primary	Scintillator Counter (D 5.4M NTOF)	Glebov, V.
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Secondary	Scintillator Counter (C 3M NTOF)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26210** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	
Foil Thickness	
Comments	

[Top](#)

SRF Reports

FIXED H12F - GMXI 1 / 26210

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26210** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbra aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26210** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	3 cm

UR 000670

SRF Reports

Trigger Delay	4999836 ns
Fiducial Delay Box	NTD-7

[Top](#)**[FIXED P4H - CPS 1 / 26210](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**[FIXED H1 - CPS 2 / 26210](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**[TIM 3 - WRFM 3 / 26210](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	175 cm
Rotation	
Steering	tcc
Comments	Expected D2/3He-p Yield ~ 2e10
Filter Pack	

Windows

	Filter	Blast Shield
W1		
W2		
W3		
W4		

[Top](#)**[TIM 4 - WRFM 4 / 26210](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
--------------------	---------------------------

SRF Reports

Distance to TCC	175 cm															
Rotation																
Steering	tcc															
Comments	Expected D2/3He-p Yield ~ 2e10															
Filter Pack																
Windows																
	<table border="1"> <tr> <td></td><td>Filter</td><td>Blast Shield</td></tr> <tr> <td>W1</td><td></td><td></td></tr> <tr> <td>W2</td><td></td><td></td></tr> <tr> <td>W3</td><td></td><td></td></tr> <tr> <td>W4</td><td></td><td></td></tr> </table>		Filter	Blast Shield	W1			W2			W3			W4		
	Filter	Blast Shield														
W1																
W2																
W3																
W4																

[Top](#)**FIXED H13F - KBMICRO 3 / 26210**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26210**

Description		LANL XR Framing Camera		
Optics		Internal Settings		
Nosecone Type	LANL			
Magnification	6X-16			
Pinhole Size	10um			
Blast Shield	.010" Be			
Frame Type	Straight			
Stand-off Distance				
Pinhole Substrate	.002"			
Rear Filter	.002" Moly			
				Phosphor
		MCP Bias #1		+200 V
		MCP Bias #2		+200 V
		MCP Bias #3		+200 V
		MCP Bias #4		+200 V
		PFM Type		200 ps

UR 000672

SRF Reports

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1	Power Supply	18V DC
3	1.3	MCP Head	4 Strip
4	1.6	Monitor Atten.	-23 dB
		Trigger Atten.	
Comments			

[Top](#)**FIXED H12C - XRPHC H12 / 26210** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRPHC H13 / 26210** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26210** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	40 cm

UR 000673

SRF Reports

Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26210**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

UR 000674

Report for RID 26211 Last Modified: [04-Aug-2008 15:33:48] -- Planned Shot Date: 06-Aug-2008

TIM	1	2	3	4	5	6	B25	H1	H10	H12C	H12F	H13C	H13F	P4H							
26211	GCD-1	QXL-1	WREM-3	WREM-4	DD-RIC-1	NIS-LANL	FABS-1	CPS-2	HXRD-1-4	XRPHC-H12	GMXL-1	XRPHC-H13	KBMICRO-3	CPS-1	HYNBT-1	HYNTD-1	NTD-1	SCC-C 3M NTOF	SCC-D 5.4M NTOF	SCC-E 1.7M NTOF	SCC-F 12M NTOF L

[Top](#)[General / 26211](#)

Shot Scope	OMEGA Only		
Campaign	LANL-HED	Planned Date	06-Aug-2008
Series Name	DTRat	Shot Series	16
PI List	Herrmann/Hans/505-665-5075/ Horsfield/Colin// Frenje/Johan/(617)452-4941/ Kyrala/George/(505) 667-7649/996-3297 Glebov/Vladimir/57454/18775222067	Yield	Type 7a: High Yield, predicted* to exceed 1e10, but less than 3e11
		Primary Objective	Attempt to measure Reaction History using D/3He gammas
		Secondary Objective	
Special Instructions			
Abort Criteria	Abort on anything		

[Top](#)[Driver / 26211](#)

Driver	Status	Pulse Shape	Request #	Timing Shift	Leg	X / Y Modulation
SSD	ON	SG1018		0 ns		OFF
Main	OFF			0 ns		
Backlighter	OFF			0 ns		
UV Fiducial	OFF					
Special Instructions						

[Top](#)[Beams / 26211](#)

60 beam(s) are configured, 60 beam(s) go to target.										
Beams	Group Name	Energy	Pointing	Focusing	Beam Delay (ns)	DPP	DPR	Termination	Report Group	

SRF Reports

11-60	Drive	500 J/Beam (UV)	tcc	0 mm (lens position)	0	SG4	Yes	Target	A
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[Top](#)**Target / 26211**

	Target 1	Target 2	Target 3
Target ID	IDC LANL 08-5 DTRAT-08A-24		
Type	SiGDP capsule - 6.7 atm D2/13.4 atm 3He		
Diameter	1100 um		
Shape	Spherical		
Type of Gas	D2/3He		
DT Target			
Positioner			
Hazards			
Beryllium			
Uranium			
Instructions	Record 3He depress time		
Soft Rough Pumping	N	N	N
Record Target Pressure?	N	N	N
Alignment Proc.			
Target Detection?	Y		
Smart Camera Algorithm	:		
Cryogenic Target	No		
MCTC			

[Top](#)**TIM / 26211**

Location	Priority	Description	Contact
TIM 1	Primary	Gas Cherenkov Detector - 1	
TIM 2	Primary	LANL XR Framing Camera - 1	Evans, S.
TIM 3	Primary	Wedge Range Filter Module - 3	Burke, M.
TIM 4	Primary	Wedge Range Filter Module - 4	Burke, M.
TIM 5	Ride Along	CVD Diamond Detector - 1	
TIM 6	Ride Along	Neutron Imaging System - LANL	Wilde, C.

[Top](#)**Fixed Diagnostics / 26211**

SRF Reports

Port	Priority	Description	Contact
H1	Primary	Charged Particle Spectrometer (2)	Burke, M.
P4H	Primary	Charged Particle Spectrometer (1)	Burke, M.
B25	Secondary	Full Aperture Backscatter System (1)	Bahr, R.
H12F	Secondary	Gated Microscope XR Imager (1)	Marshall, F.
H10	Secondary	Hard XR Detector (1-4)	
H13F	Secondary	Kirkpatrick Baez XR Microscope (3)	Marshall, F.
H12C	Secondary	XR Pinhole Camera (H12)	Marshall, F.
H13C	Secondary	XR Pinhole Camera (H13)	Marshall, F.

[Top](#)**Neutron Diagnostics / 26211**

Primary Radiation	DD	
Expected Yield	1.00E+11	
Priority	Description	Contact
Secondary	High Yield Neutron Bang-Time Detector (1)	
Secondary	High Yield Neutron Temporal Diagnostic (1)	Glebov, V.
Primary	Neutron Temporal Diagnostic (1)	
Primary	Scintillator Counter (E 1.7M NTOF)	Glebov, V.
Primary	Scintillator Counter (D 5.4M NTOF)	Glebov, V.
Primary	Scintillator Counter (F 12M NTOF L)	Glebov, V.
Secondary	Scintillator Counter (C 3M NTOF)	Glebov, V.

[Top](#)**TIM 1 - GCD 1 / 26211** [Operating Procedures](#)

Description	Gas Cherenkov Detector
Gas Fill	CO2
Gas Pressure	100 psi
Secondary Gamma Foil	No
Foil Material	
Foil Thickness	
Comments	

[Top](#)

SRF Reports

FIXED H12F - GMXI 1 / 26211

Description	Gated Microscope XR Imager
Side 1 Crystal	
Side 2 Crystal	
Side 1 crystal angle	
Side 2 crystal angle	
Unframed image A	CID
Unframed image B	CID
Unframed image C	CID
Unframed image D	CID
Filter used for image A	1mil Be+3mil Al
Filter used for image B	1mil Be+4mil Al
Filter used for image C	1mil Be+5 mil Al
Filter used for image D	1mil Be+6 mil Al

[Top](#)**TIM 6 - NIS LANL / 26211** [Operating Procedures](#)

Description	Neutron Imaging System
Aperture Desc.	Triple mini-penumbra aperture
Beta Mix Reflector	
NXI Installed?	N
Detector Pack	
Detector Filter	
In-Floor LOS Neutron Collimator	
Comment	Will contact shot director to remove aperture on last couple shots
Steering	tcc

[Top](#)**NEUTRON - NTD 1 / 26211** [Operating Procedures](#)

Description	Neutron Temporal Diagnostic
Drive Type	Direct
Expected bang Time	1500 ps
Distance to TCC	3 cm

UR 000678

SRF Reports

Trigger Delay	4999836 ns
Fiducial Delay Box	NTD-7

[Top](#)**[FIXED P4H - CPS 1 / 26211](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**[FIXED H1 - CPS 2 / 26211](#)** [Operating Procedures](#)

Description	Charged Particle Spectrometer
Slit Width	1 mm
Comments	Simultaneous measurement of DD (1e11) & D3He (2e10) protons

[Top](#)**[TIM 3 - WRFM 3 / 26211](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
Distance to TCC	175 cm
Rotation	
Steering	tcc
Comments	Expected D2/3He-p Yield ~ 2e10
Filter Pack	

Windows

	Filter	Blast Shield
W1		
W2		
W3		
W4		

[Top](#)**[TIM 4 - WRFM 4 / 26211](#)** [Operating Procedures](#)

Description	Wedge Range Filter Module
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SRF Reports

Distance to TCC	175 cm															
Rotation																
Steering	tcc															
Comments	Expected D2/3He-p Yield ~ 2e10															
Filter Pack																
Windows																
	<table border="1"> <tr> <td></td><td>Filter</td><td>Blast Shield</td></tr> <tr> <td>W1</td><td></td><td></td></tr> <tr> <td>W2</td><td></td><td></td></tr> <tr> <td>W3</td><td></td><td></td></tr> <tr> <td>W4</td><td></td><td></td></tr> </table>		Filter	Blast Shield	W1			W2			W3			W4		
	Filter	Blast Shield														
W1																
W2																
W3																
W4																

[Top](#)**FIXED H13F - KBMICRO 3 / 26211**

Description	Kirkpatrick Baez XR Microscope
Detector	Biomax
Filter used for image A	0
Filter used for image B	0
Filter used for image C	2 mils Al
Filter used for image D	4 mils Al
Filter used for image E	0

[Top](#)**TIM 2 - QXI 1 / 26211**

Description		LANL XR Framing Camera	
Optics		Internal Settings	
Nosecone Type	LANL		
Magnification	6X-16		
Pinhole Size	10um		
Blast Shield	.010" Be		
Frame Type	Straight		
Stand-off Distance			
Pinhole Substrate	.002"		
Rear Filter	.002" Moly		

UR 000680

SRF Reports

Interstrip Timing		Misc.	
Strip#	Requested delay (ns)	Steering	tcc
1	0.000	Start Time	-.1 ns
2	1	Power Supply	18V DC
3	1.3	MCP Head	4 Strip
4	1.6	Monitor Atten.	-23 dB
		Trigger Atten.	
Comments			

[Top](#)**FIXED H12C - XRP HC H12 / 26211** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Fe (PI Supplied)

[Top](#)**FIXED H13C - XRP HC H13 / 26211** [Operating Procedures](#)

Description	XR Pinhole Camera
Total Fixed Filtration	0.006" Be
Pinhole to image	648 mm
Pinhole diameter	10 um
Pinhole to target	162.5 mm
Detector	CID
Magnification	4.0
Added Filtration	.001" Cu (PI Supplied)

[Top](#)**TIM 5 - DD-RIC 1 / 26211** [Operating Procedures](#)

Description	CVD Diamond Detector
Dist. to TCC	40 cm

SRF Reports

Bias	1500 Volts
Comment	
Steering	tcc

[Top](#)**FIXED B25 - FABS 1 / 26211**

Description	Full Aperture Backscatter System
Streak Camera	Yes
Calorimeters	SRS25, SBS25
12" Calorimeters (for calibration)	No

UR 000682